powered by:

White Paper

Abstract

The advanced technology and interface of AdRunner powered by MyComputer.com enables web properties of all sizes to create and organize integrated advertising solutions for tracking, serving and managing advertising. This white paper will show how users can use turn-key advertising management solutions that take advantage of the unique services offered by AdRunner and MyComputer.com.

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EXECUTIVE SUMMARY

Every mile of the information superhighway is dotted with online “billboards” representing important revenue streams for growing Internet companies. Advertising revenues are the reward for hard work and successful marketing. Attempts to manage online advertising, however, can often result in allocating valuable time and resources that would be better spent on core competencies.

AdRunner is the professional choice for managing and distributing (serving) advertising inventory. This white paper provides an overview of how AdRunner makes this possible. It also provides an overview of some of the tools and technologies of the MyComputer.com system that will help users achieve the goal of integrated ad management and delivery. Some benefits outlined in this paper include:

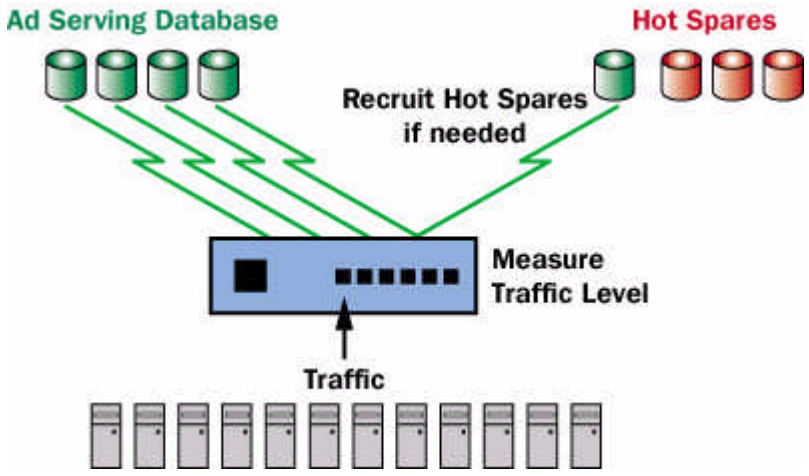
- Ad Serving
- Advertising Account Management
- Targeted Advertising
- Real-time Reporting
- Campaign Creation and Control
- Reliability/Scalability

SYSTEM OVERVIEW

AdRunner offers integrated advertising management and delivery, proven reliability and the scalability to grow with any business. An easy-to-use web interface guides users through a customizable and robust system.

AdRunner functions as an Application Service Provider (ASP), which means that our servers perform all storing and delivery functions. The ASP model allows us to store, compile data, and then make it available to users in real-time. Because AdRunner is an ASP, there is no software for users to install or download.Because we are remotely hosted, our server and support infrastructure can accommodate the tracking of high-traffic and rapidly growing traffic sites. AdRunner can accommodate large increases in traffic or volume, allowing for any level of growth.

Figure 1: Scalability



Web Interface

AdRunner is built to perform the many tasks that comprise advertising management and delivery in a series of easy, logical steps. Each area of AdRunner's web interface is task-oriented. This ensures that both a novice and expert user can accomplish their specific tasks without taking unnecessary steps.

Each category of tasks are grouped into major sections of AdRunner characterized by the tabs that run along the top portion of every page. This easy-to-use navigational system ensures that a user can quickly and easily move from one section of the tool to another without interrupting the natural process of the task.

In addition to providing the comprehensive functionality necessary to accomplish tasks, each section also provides real-time data delivery and historical reports. This enables a user to view up-to-date, pertinent information in each section of AdRunner.

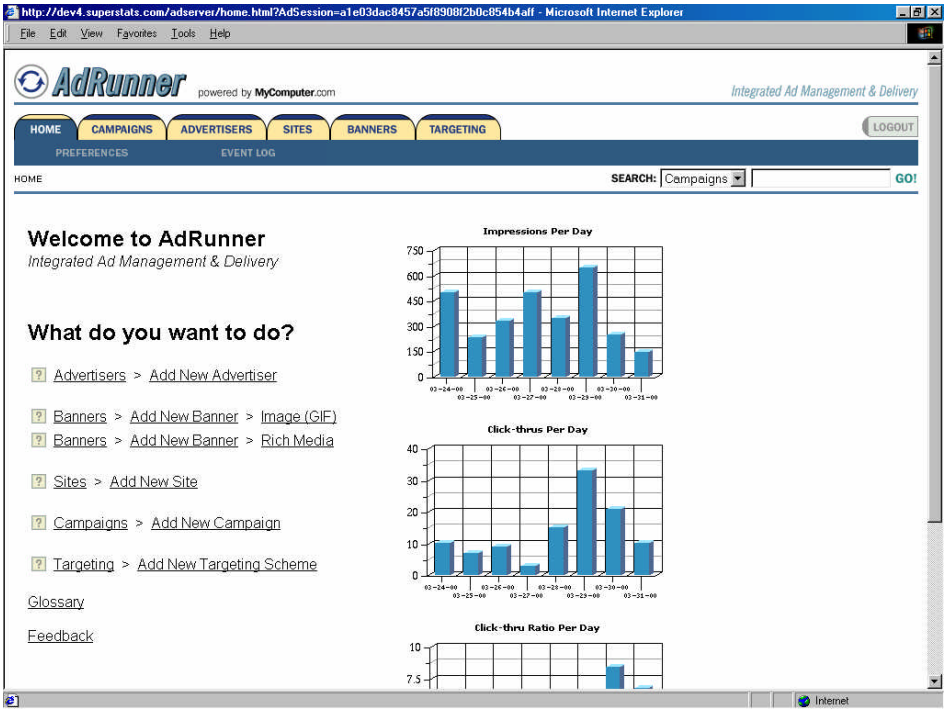
Figure 2: Navigation

The functional sections of AdRunner are grouped logically by their area of focus. These sections include: Campaign management, Advertiser management, Site (or the location of banner delivery) management, Banner management, and Targeting Scheme development.

AdRunner Home

The AdRunner Home tab serves as both the launching pad and the hub for common tasks associated with ad management and delivery. The homepage provides users a snapshot of a their account activity as well as additional resources, including a glossary and a section on advertising industry information. As the navigational hub, the AdRunner Home also provides quick links to common tasks and a robust, custom search tool.

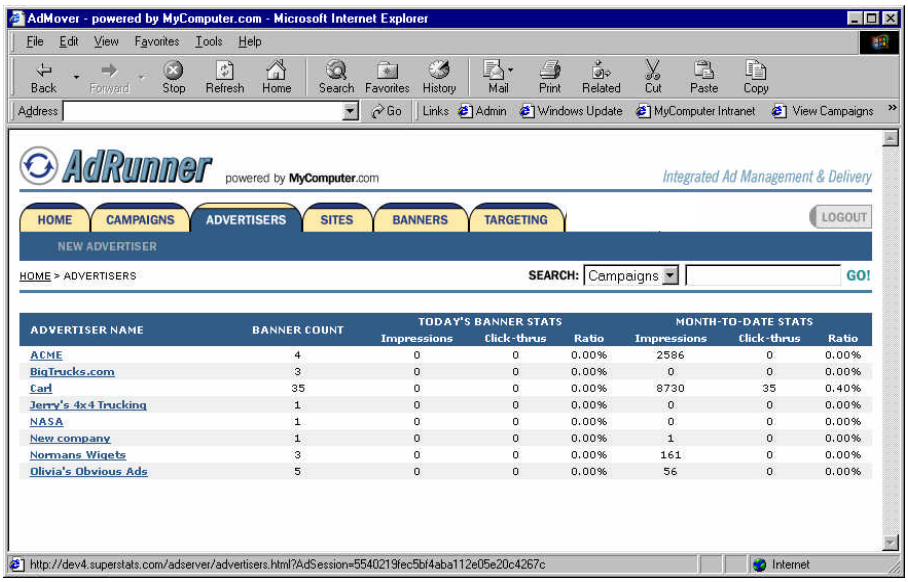
Figure 3: AdRunner Home



Advertisers

All advertisers can be managed and tracked in one location. As users acquire clients who want to place advertising banners on a location they own, they can add that client as an advertiser within AdRunner. This allows users to enter in some basic information that will serve to later identify those banners and locations with this particular advertiser. After an advertiser is added to the account, the advertiser can then be organized and managed from this area of the AdRunner interface.

Figure 4: Advertisers Main Page



When an advertiser is added, a name and password are assigned to them. This allows the advertiser access to portions of AdRunner that allow them to log in and view the performance of their banners. This provides both a benefit to the user and the advertiser. The user can use this feature as a selling point when looking for advertisers. The advertisers themselves benefit by receiving real-time data on how users react to their banners. The interface for advertisers will be very similar to the normal AdRunner interface, but will limited the functionality only to those areas useful to the advertiser.

Banners

A banner is an graphical advertisement usually displayed as either an image file or a rich media file. Banners act as both an “Internet billboard” to display information about an advertiser as well as providing a link back to the advertisers page where an end user can get more information about the advertisement.

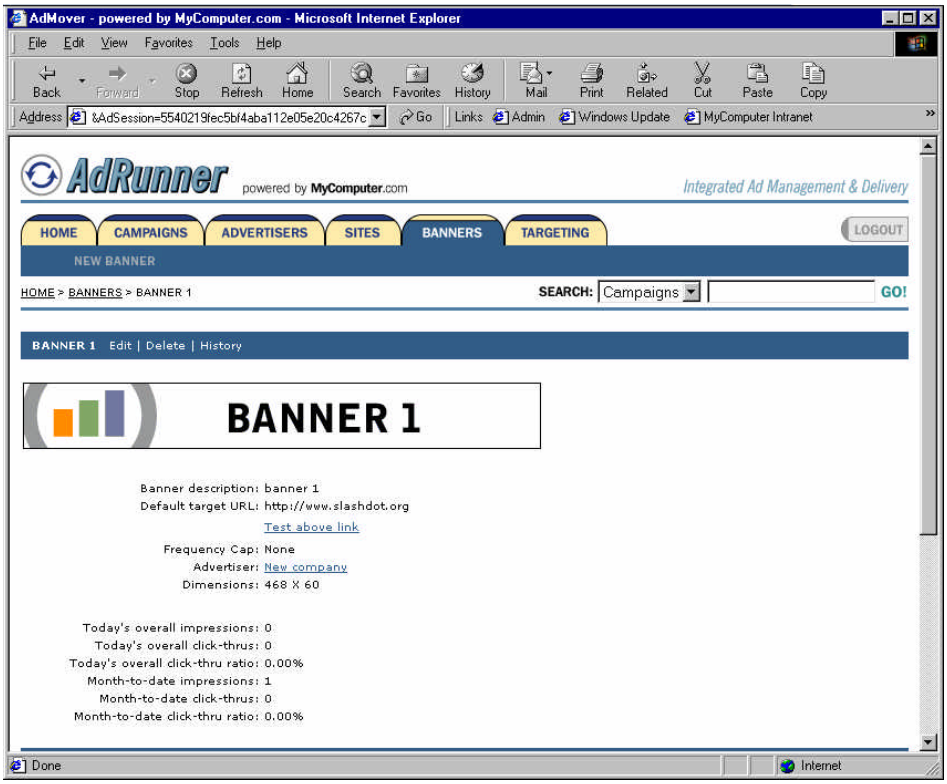
The primary measure of performance for an advertiser is based on how often a particular banner is seen (impressions) and how often someone has clicked on the banner (click-thru.) These important measurements provide much of the data that constitutes the information displayed throughout the AdRunner Interface.

In addition to traditional media forms (JPEG and GIF), banners can be uploaded into the AdRunner system in a number of rich media formats:

- CGI forms
- Dynamic HTML
- HTML dropdown menus
- Image maps
- JavaScript
- Real Audio
- Real Flash
- Macromedia Flash
- VRML
- Daughter Windows
- IFRAME
- Java
- Real Video

From the Banner section of AdRunner, users can add banners at any time by linking to them or uploading them from a computer. Users can choose from adding a basic image file or a rich media file and assign them to the appropriate advertiser.

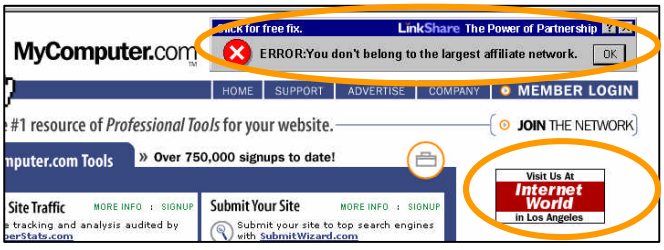
Figure 5: A Banner View



Sites

A Site is any location where a banner or tile will reside. For example, if a web page has both a large banner advertisement and a smaller "tile" ad, each one would be entered into AdRunner as a "site." In other words, one web page could have multiple "sites."

Figure 6: Example of two "sites" on one page



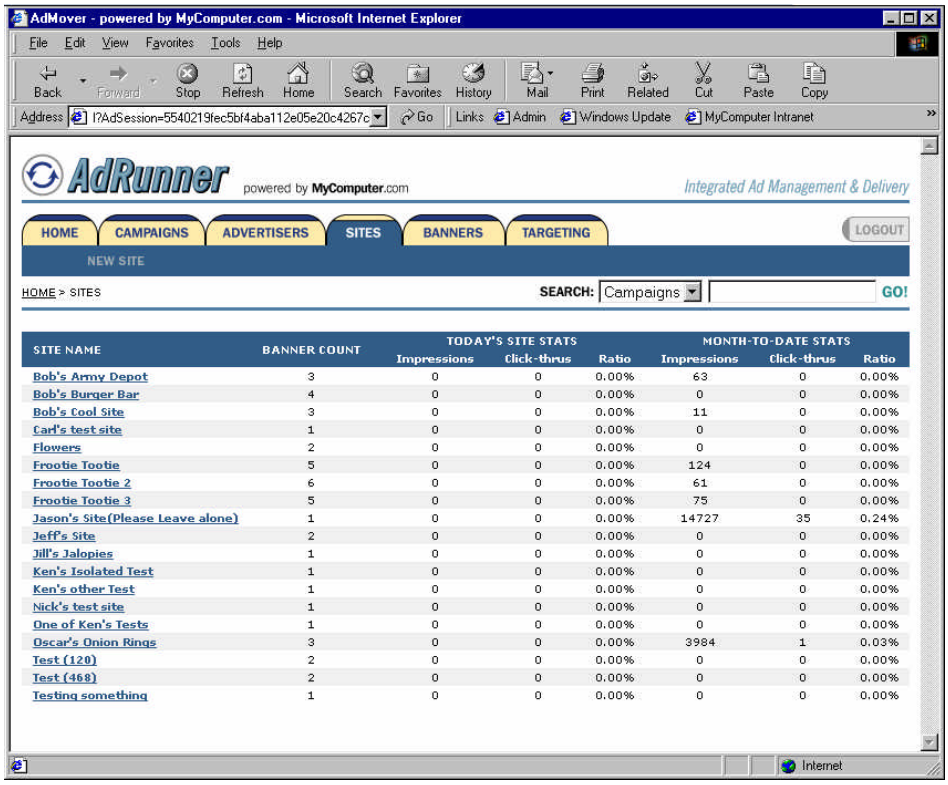
Banner "site"

Tile "site"

A site can represent an entire website, however, if a user were to serve the same banner on every page of the site. Additionally, sites can be set up to represent channels or categories where a user might want to target specific information. For example, if a user had a site with categories for both finance and gardening, they could set up a site to target ads specifically to the finance category, and all the web pages in that section, and another site to target the gardening section, and all the web pages in that section.

From the Site section of AdRunner, a user can add sites at any time by including some basic information about the location of the advertising. Once a site has been added, HTML code is available that can be inserted into the location where the users want the banner to be served.

Figure 7: Sites Main Page

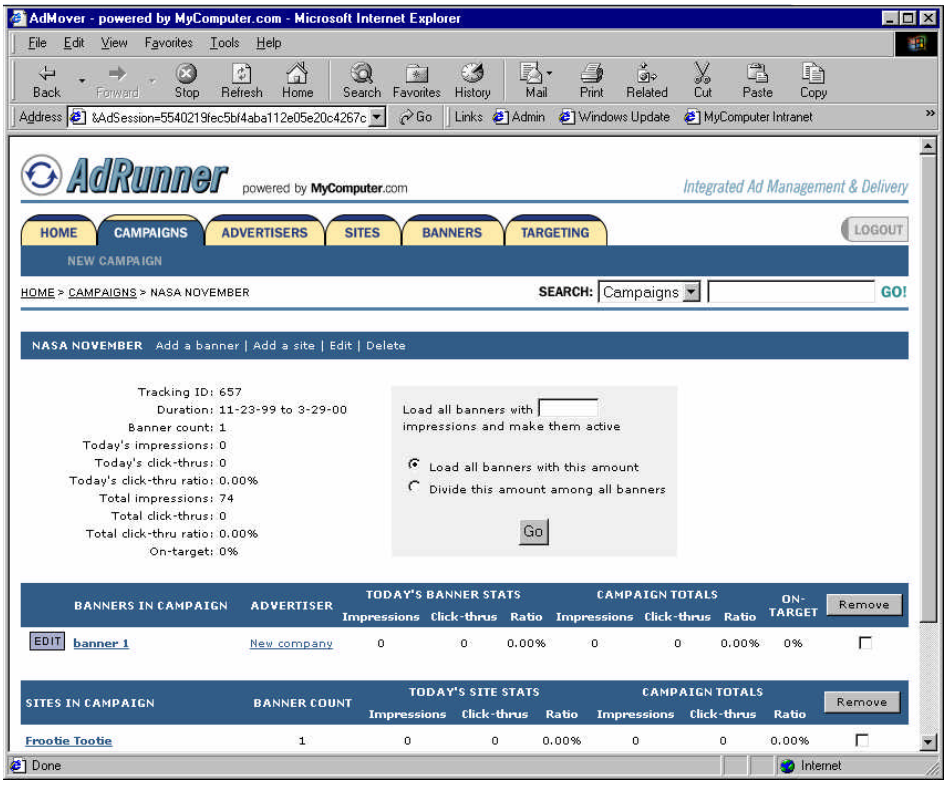


Campaigns

A campaign is used to organize banners, sites and advertisers together for the purpose of tracking their performance (individually or collectively) over a period of time (flight dates). Campaigns are used to control banner serving by establishing a group of banners that serve from a start date to an end date on a group of sites to which it is assigned. For example, if a user were running a promotion, they could associate several banners and sites with that promotion and track their performance over the life of the promotion.

The campaign area is where much of AdRunner's functionality becomes extremely useful. A Campaign view will provide all the information about the campaign itself, including the banners and sites associated with that particular campaign. Performance statistics as well as management options are included as part of the flexible and robust functionality.

Figure 8: A Campaign view



Once a campaign is created, banners and sites can be assigned to it at any time. In addition, a banner, site or the campaign itself can be deactivated or reactivated to temporarily stop banner serving.

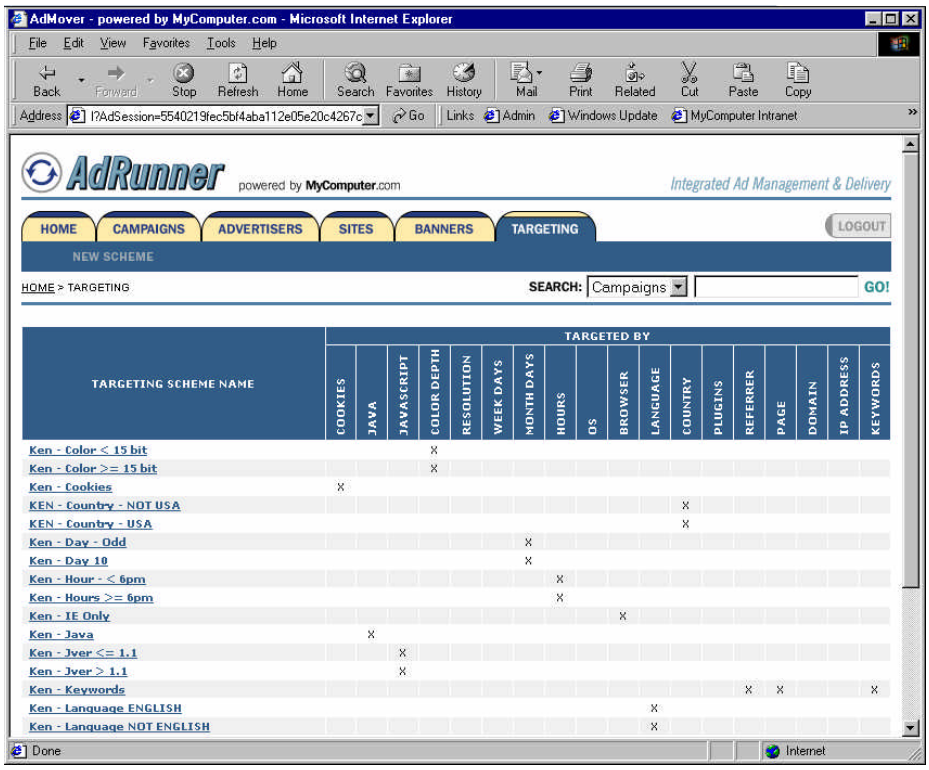
Targeting Schemes

A Targeting Scheme allows a user to define a set of parameters that will limit how and to whom a banner is served. From the Targeting section of AdRunner, schemes can be created by defining the properties or characteristics that will limit the banner exposure. For example, a user may want to create a targeting scheme that would only target banners to users that have Internet Explorer 4.0 or higher and live in China. AdRunner gives users the flexibility to get very specific to the audience they want to reach.

Targeting schemes can be created according to the following criteria:

- Whether the user's browser supports cookies
- Whether the user's browser supports Java Script
- The Java capabilities of the user's browser
- Whether the user's browser can receive a rich media banner
- The color depth of the user's screen
- The resolution (width and height in pixels) of the user's screen
- The day of the week, day of the month, and/or hour of the users local time
- The operating system the user is running
- The browser the user is running
- The language settings of the user's browser
- The user's country
- The Netscape plug-ins the user has installed
- The referring URL (the web page he just came from)
- The current page URL
- The user's domain or ISP
- The user's IP address
- Keywords the user typed into a search engine, and which search engine he used to find the site

Figure 9: Targeting Main Page



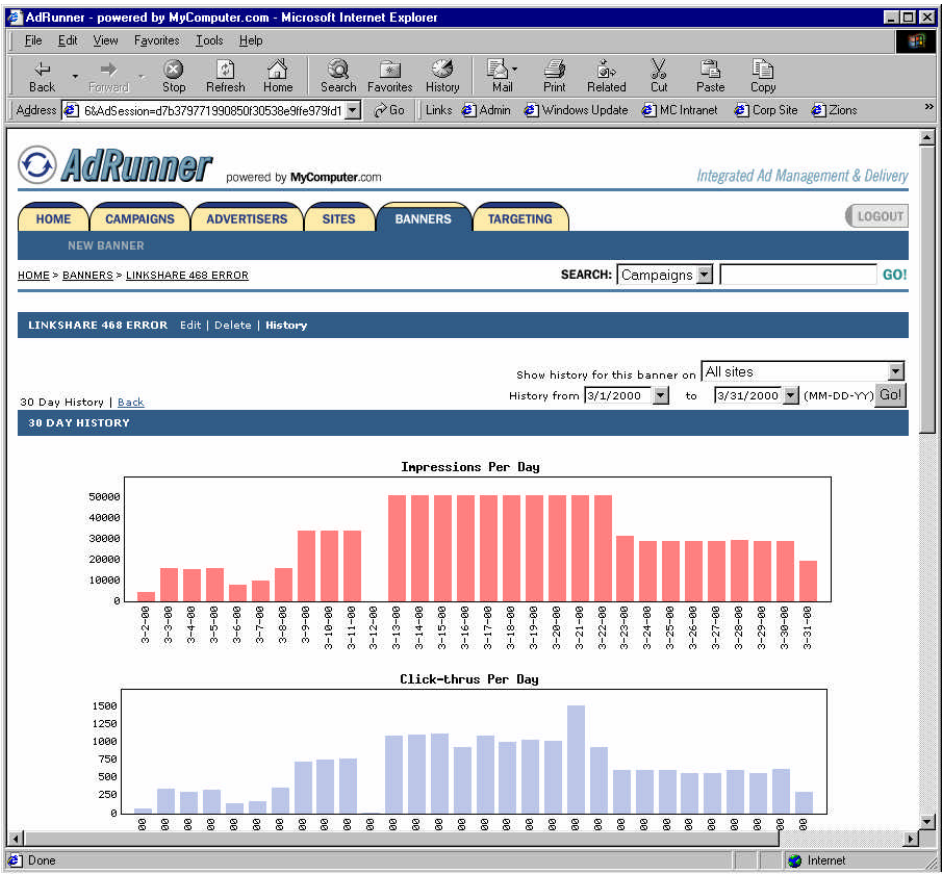
Once a targeting scheme is created, any banner or site can be assigned to that scheme either when it is created or by choosing to change the options from the banner or site page. A snapshot of all targeting schemes in provided on the Targeting main page.

Reports

Each section of AdRunner allows users to track and view the traffic statistics associated with their account. For example, from the Campaign section of AdRunner, a user can create custom views and charts of any campaign's historical and real-time performance.

Some of the most useful reports in AdRunner are those that show the effectiveness of banners. Each banner (as well as each site, campaign, etc.) has a unique report that can be generated in real-time. These reports show detailed information on impressions, click-thrus and ratios as well as showing the data in graphical charts and graphs. All of this information is customizable and can be changed by the user to represent the exact desired data.

Figure 10: A Banner Report View



Maintenance Programs

There are two back-end maintenance programs that translate the information a user enters (through the AdRunner web interface) into data that the web server uses to serve banners.

Collecting and Collating

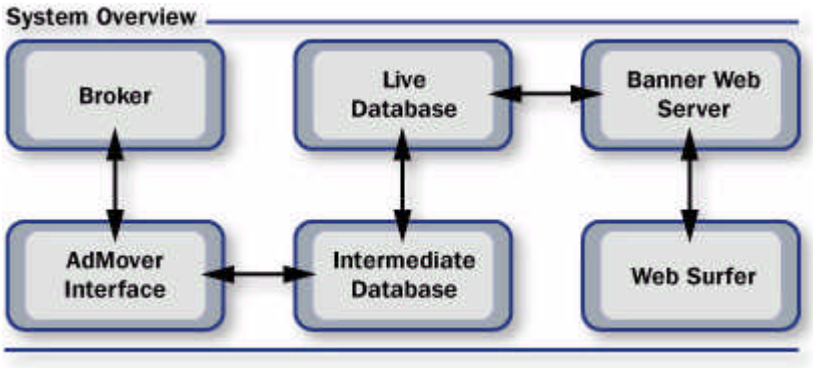
The first program collates and collects media delivery statistics. It gathers tracking information and prepares the various reports available through out the AdRunner interface. It also copies archives this data and associated reports.

Deploying and Removing

The second program is responsible for deploying new banners and removing banners that have finished serving or which been removed from the interface. Based on the information entered into the AdRunner system it intelligently deploys the banners calculating weights and delivery parameters. Both programs are set to run automatically every fifteen minutes. Therefore, it can take up to fifteen minutes for changes made in the interface to take affect.

Web Server

Figure 11: System Overview



There are several steps involved in the delivery (serving) of a banner. The first step is the actual banner request. This is a complicated process that queries our database tables to choose a banner to send back to the visitor. A list of possible banners is generated based on the site that the person is visiting. This list is narrowed down as banners with targeting schemes and frequency caps are eliminated if they don't meet the visitor's browser and profile specifications.

After the resulting list is determined, one banner is randomly chosen from the resulting list, using a scaled value calculated from the amount of loaded impressions remaining and the number of banners in the campaign. The web server redirects the visitor's browser to the URL of this banner.

The final step of the banner-serving process is done after the web request has finished. The web server logs which banner was served and on which site it appeared. If the banner is later clicked-on, a click-thru is also logged. This data is used to generate AdRunner's campaign, banner, and site history reports.

ADDITIONAL FEATURES

Serve by Clicks or Impressions

A campaign can be set to serve by clicks or impressions. Serving by impressions limits the number of times banners in a campaign will appear on a site. For example, loading a campaign with 100,000 impressions will stop banners from serving after they've used all 100,000 impressions. Loading a campaign with 1,000 clicks will stop the campaign only after its banners have been clicked on 1,000 times. These two systems are designed to facilitate many different marketing strategies.

Interface Searching

The AdRunner web interface provides powerful searching capabilities. From any place in the web interface a user can quickly and easily search for campaigns, advertisers, sites, banners or targeting.

Media Size and Site Unity

Banners of differing sizes can be a part of the same campaign. Each banner in a campaign is automatically assigned to all sites in the campaign with matching content size.

Automatic Banner Serving Rate Adjustment

As the traffic on a site alters in real-time, so is the rate at which banners in a campaign are served. This feature is designed so that all campaigns will finish serving the amount of impressions or clicks loaded by the end of the flight dates, and no sooner or later. For example, if one campaign is set to serve 100 impressions on one site in two days, and only serves 20 on the first day, the system will favor that campaign on the second day over other campaigns on the same site such that it can serve its remaining 80.

Banner Settings

Banners may be marked as *normal*, *overserve,* or *default*. Normal banners serve out exactly proportional to the total number of impressions loaded on the banner's campaign. When the campaign has run out of impressions or clicks, regardless of the banner and site percentages, the banner will no longer be served from that campaign on any site.

Unlike “normal” banners, banners set to overserve will not stop serving after the total number of impressions loaded has been reached. These banners will keep serving as long as the current date is within the campaigns' scheduled dates. The number of impressions loaded is used to calculate the frequency with which the banner will serve. Given sufficient ad inventory, banners set to overserve should serve at least the number of impressions loaded. If several banners are set to overserve, they will overserve in proportion to each other.

The final type of banner, a default, will be served only if there are no overserve banners in the campaign and the campaign's impressions have been exhausted. These banner settings offer many levels of protection to ensure that sites always receive the banners they were designed to hold.

Automatic Load-balancing

The ad-serving database must endure a large load, as each banner served queries from it multiple times. In order to handle many sites, and to accommodate the loads incurred by high traffic sites, the ad-serving database has been intelligently distributed across several physical machines.

This load distribution is actually automatically monitored and adjusted to optimally handle the constantly changing loads that are seen from the Internet. We have configured in AdRunner multiple hot-spare servers. As soon as the rate of ad serving exceeds our parameters, the hot-spare servers will be fired up and recruited to assist in meeting the demand.

This ensures that banner delivery will always have adequate resources to remain exceedingly fast regardless of the traffic specific sites.

Daily Limits

A daily limit allows users to specify the maximum number of impressions to be served out each day. When the daily limit is reached no more impressions will be served. This ensures that a campaign will serve evenly over its flight dates.

Frequency Capping

Frequency capping allows users to set a limit to the number of times a visitor will see a specific banner in a campaign within an optional number of days. When the viewer has reached the cap for a banner, that banner will be eliminated from the list of possible banners. This cap can optionally be set to expire after a given number of days.

Real-time Statistics

The AdRunner interface provides users with valuable real-time statistics on their campaign's performance:

Banner count / site count: Quickly shows how many banners and sites have been assigned to a given campaign.

Impressions, clicks, and click-thru ratio today: Shows how many impressions and click-thrus have occurred so far today for every banner in the system, in addition to overall statistics for campaigns and sites. Also track banners' click-thru ratios to show how well they perform.

Impressions, clicks, and click-thru ratio total: Shows overall and month-to-date totals of impressions and click-thrus, along with average click-thru ratios.

Campaign on-target percentage: The on-target percentage shows how well a campaign is meeting its objectives for impressions and click-thrus. AdRunner

automatically calculates optimal rates of banner delivery and attempts to serve banners so that they will reach their desired number of impressions no sooner nor later than their end dates. If, due to changes in traffic or improper booking of campaigns, a banner serves out faster or slower than its optimal rate, the campaign on-target percentage can be used to improve its performance. For example, if a campaign has an on target percentage of 80%, this means that it has only served out 80% of the number of impressions it should optimally have reached by this stage of the campaign. A campaign that is perfectly on target has an on-target percentage of 100%.

Safety Precautions and Fallbacks

To eliminate the possibility of a banner not being served, the following features are in place:

Global campaigns: Setting up a campaign as a global campaign will cause the campaign to serve on all sites, not just the ones that it assigned to it.

Default campaigns: Setting up a campaign as a default campaign will cause all banners in that campaign to serve at the lowest priority on all sites assigned to it. This type of campaign can be used with a normal campaign to provide a group of banners that will serve if the normal campaign runs out.

Non-JavaScript browsers: If the viewer of a banner doesn't support or has turned off JavaScript, the browser will read in the <NOSCRIPT> block of the banner code that will cause it to pull an image-only banner.

Network failure: In the event that network connection fails, a transparent banner will be served instead of a broken image icon.